



CERTIFICATION TEST REPORT

Report Number. : 12132731-E8V1

Applicant : SONY MOBILE COMMUNICATIONS INC.
4-12-3 HIGASHI-SHINAGAWA,
SHINAGAWA -KU,TOKYO, 140-0002, JAPAN

FCC ID : PY7-68553C

EUT Description : GSM/WCDMA/LTE Phone with BT,DTS/UNII a/b/g/n/ac, & NFC

Test Standard(s) : FCC 47 CFR PART 15 SUBPART B

Date Of Issue:

April 20, 2018

Prepared by:

UL Verification Services Inc.
47173 Benicia Street
Fremont, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888



Revision History

Rev.	Issue Date	Revisions	Revised By
V1	04/20/18	Initial Issue	

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY.....	5
3. FACILITIES AND ACCREDITATION.....	5
4. CALIBRATION AND UNCERTAINTY	5
4.1. MEASURING INSTRUMENT CALIBRATION.....	5
4.2. SAMPLE CALCULATION.....	5
4.3. MEASUREMENT UNCERTAINTY	6
5. EQUIPMENT UNDER TEST	7
5.1. DESCRIPTION OF EUT	7
5.2. TEST CONFIGURATIONS	7
5.3. MODE(S) OF OPERATION	7
5.4. SOFTWARE AND FIRMWARE	7
5.5. MODIFICATIONS	7
5.6. DETAILS OF TESTED SYSTEM.....	8
6. APPLICABLE EMISSIONS LIMITS AND TEST RESULTS	11
6.1. EMISSIONS TEST AND MEASUREMENT EQUIPMENT	11
6.2. RADIATED EMISSIONS LIMITS AND RESULTS	12
6.2.1. RADIATED EMISSIONS 30 TO 1000 MHz (SYNC MODE).....	13
6.2.2. RADIATED EMISSIONS 1GHz to 18GHz (SYNC MODE).....	15
6.2.3. RADIATED EMISSIONS 18 to 26 GHz (SYNC MODE).....	17
6.2.4. RADIATED EMISSIONS 26 to 40 GHz (SYNC MODE).....	19
6.2.5. RADIATED EMISSIONS 30 TO 1000 MHz (CHARGING MODE)	21
6.2.6. RADIATED EMISSIONS 1GHz to 18GHz (CHARGING MODE)	23
6.2.7. RADIATED EMISSIONS 18 to 26 GHz (CHARGING MODE)	25
6.2.8. RADIATED EMISSIONS 26 to 40 GHz (CHARGING MODE)	27
6.3. AC MAINS LINE CONDUCTED EMISSIONS.....	29
6.3.1. RESULTS- SYNC MODE	30
6.3.2. RESULTS- CHARGING MODE	32
7. SETUP PHOTOS	34

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATIONS INC.
4-12-3 HIGASHI-SHINAGAWA, SHINAGAWA-KU
TOKYO, 140-0002, JAPAN

EUT DESCRIPTION: GSM/WCDMA/LTE PHONE with BT, DTS/UNII a/b/g/n/ac, & NFC.

SERIAL NUMBER: CB512FH689

DATE TESTED: MARCH 21 – MARCH 22, 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR PART 15 SUBPART B	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Verification Services Inc. By:

Reviewed By:



Dan Coronio
CONSUMER TECHNOLOGY DIVISION
Operations Leader
UL Verification Services Inc.



Kiya Kedida
CONSUMER TECHNOLOGY DIVISION
Project Engineer
UL Verification Services Inc.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2014.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 22541-1)
☒ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 22541-2)
☒ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 22541-3)
	☒ Chamber G(IC: 22541-4)
	☐ Chamber H(IC: 22541-5)

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. Chambers A through C are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-3, respectively. Chambers D through H are covered under Industry Canada company address code 22541 with site numbers 22541 -1 through 22541-5, respectively.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned}\text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m}\end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.84 dB
Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Radiated Disturbance, 18000 to 26000 MHz	4.45 dB
Radiated Disturbance, 26000 to 40000 MHz	5.24 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac, & NFC.

GENERAL INFORMATION

Highest frequency generated or used by the EUT	5825 MHz
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5.2. TEST CONFIGURATIONS

The following configuration was tested:

EUT Configuration	Description
1	Laptop Sync Mode - The EUT was configured as table top equipment. The EUT is installed in a typical configuration. The EUT is connected to a laptop via USB, is charging and transferring data via the laptop.
2	Charging - The EUT was configured as table top equipment. The EUT is installed in a typical configuration. The EUT is connected to an AC adapter for charging and in a functional mode.

5.3. MODE(S) OF OPERATION

Mode	Description
Sync mode	Data transfer; Sync video file from laptop to EUT and continued playing video during testing.
Charging Mode	Charging with supplied USB charger. EUT and its charger shall be on back edge of table, with charger connected to extension cord.

5.4. SOFTWARE AND FIRMWARE

The software version installed in the EUT during testing was 0.199.

5.5. MODIFICATIONS

No modifications were made during testing.

5.6. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT & PERIPHERALS

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	2349CW5	PB05HPL	DoC
Earphone	Sony	N/A	N/A	N/A
Audio & Charger Splitter	SONY	1312-8675.1B	YYWWSSPCXXXXXC	N/A
AC Adapter	Lenovo	ADLX90NLT2A	11S45N0307ZLZ436RDM2	N/A
Mouse	Logitech	M-U0026	1304HS02AX68	N/A
Keyboard	Lenovo	KU-0225	54Y9400	N/A
Switch	Netgear	FS105 v2	1D52163304A74	DoC
AC Adapter	Netgear	FA-0751000SUA	332-10154-01	N/A

I/O CABLES Sync Mode

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	AC Power	1	AC	Unshielded	1.2m	AC Mains to AC/DC Adapter
2	DC Power	1	DC	Unshielded	1m	AC/DC Adapter to Switch and Laptop
3	USB	2	USB	Unshielded	1m	Laptop to keyboard and mouse
4	USB	1	USB-type-C	Unshielded	1m	EUT to Laptop
5	Ethernet	1	RJ45	Unshielded	>2m	Laptop to Switch

I/O CABLES Charging Mode

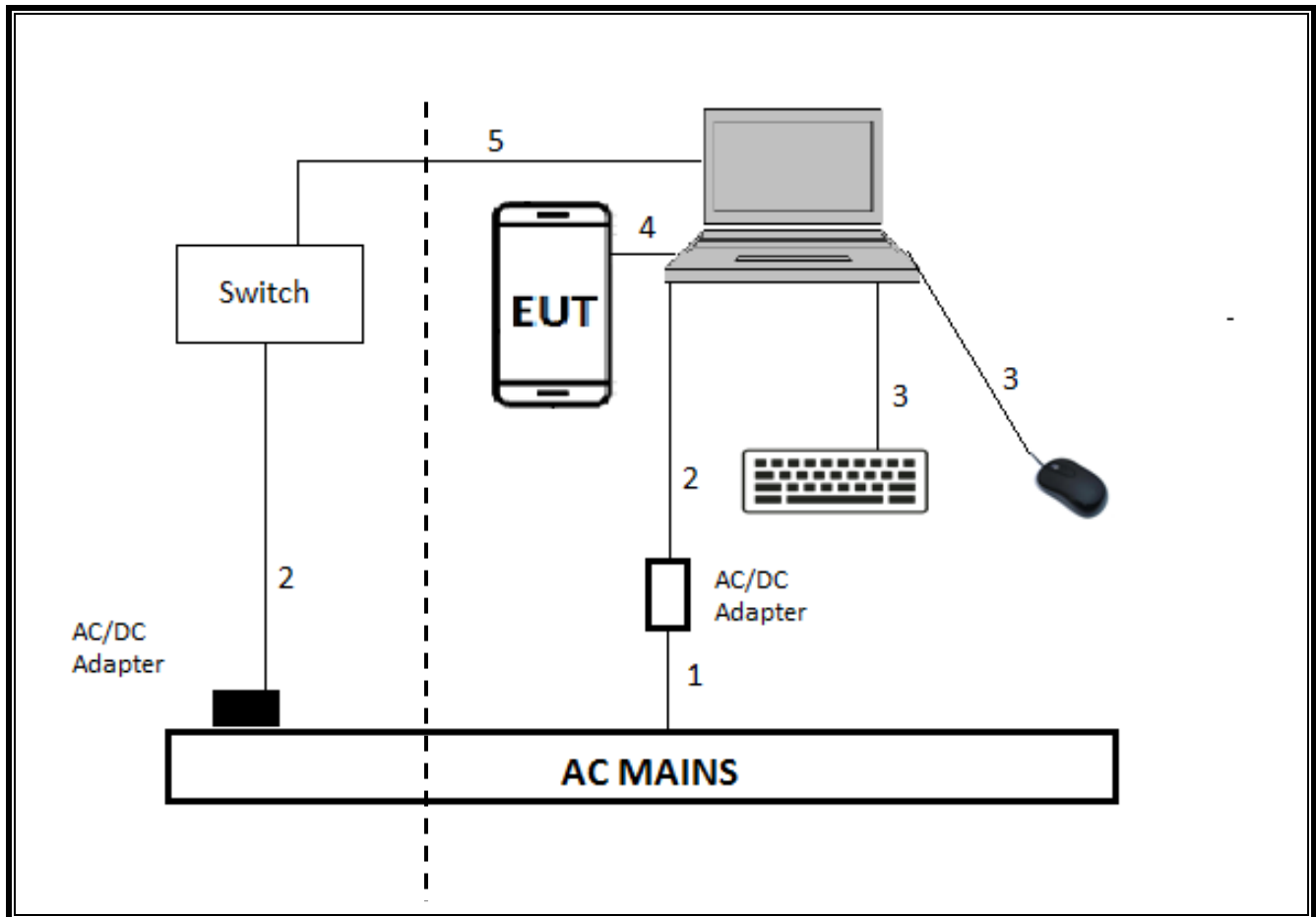
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	AC Adapter	Un-Shielded	1.2m	No
2	Jack	1	Headset	Shielded	1m	No
3	USB/HP Jack	1	USB Type-C/Audio	Un-Shielded	.2m	Audio & Charging Cabel

TEST SETUP

The EUT is installed in a typical configuration. Test software exercised the EUT.

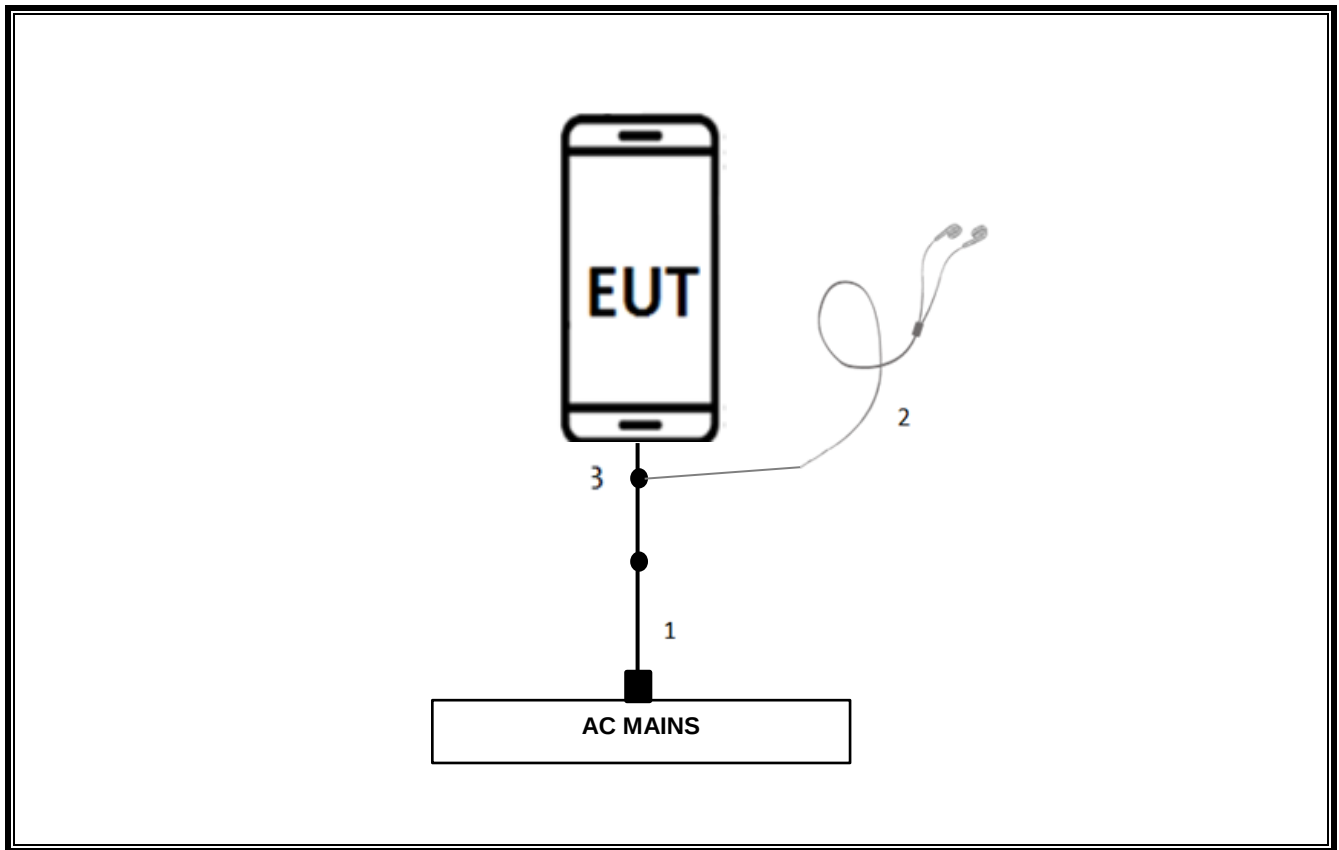
SETUP DIAGRAM

Sync Mode



NOTE: Switch location is outside chamber (located in the control room).

Charging Mode



6. APPLICABLE EMISSIONS LIMITS AND TEST RESULTS

6.1. EMISSIONS TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	Manufacturer	Model	ID Number	Cal Due
Amplifier, 10KHz to 1GHz, 32dB	Sonoma Instrument	310N	T834	12/11/2018
Amplifier, 10KHz to 1GHz, 32dB	Sonoma Instrument	310N	T834	06/01/2018
Amplifier, 1 to 18 GHz	Miteq	AFS43-00101800-25-S-42	T493	06/23/2018
Amplifier, 1 to 18 GHz	Miteq	AFS43-00101800-25-S-42	T491	06/01/2018
Pre-Amp 1-26.5 GHz	Agilent	8449B	T404	07/23/2018
Pre-Amp, 26-40GHz	MITEQ	NSTTA2640-35-HG	1864	09/21/2018
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T407	04/14/2018
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences	JB3	T243	11/02/2018
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T863	06/09/2018
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	T345	04/14/2018
Antenna Horn, 18 to 26GHz	ARA	MWH-1826	T89	01/18/2019
Horn Antenna ,26.5 - 40 GHz	ARA	MWH-2640	T90	08/25/2018
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1466	04/11/2018
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1454	01/08/2019
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1113	12/21/2018
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1450	02/05/2019
AC Line Conducted				
EMI Test Receiver 9Khz-7GHz	Rohde & Schwarz	ESCI7	T1124	11/07/2018
LISN for Conducted Emissions CISPR-16	Fischer	50/250-25-2-01	T1310	06/15/2018
Power Cable, Line Conducted Emissions	UL	PG1	T861	08/31/2018
Test Software List				
Description	Manufacturer	Model	Version	
Radiated Software	UL	UL EMC	Ver 9.5, Dec 01, 2016	
AC Line Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015	

NOTE: *testing was completed before equipment calibration expiration date.

6.2. RADIATED EMISSIONS LIMITS AND RESULTS

LIMIT

FCC Part 15 Subpart B

§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dBμV/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54
Note: The lower limit shall apply at the transition frequency.	

TEST PROCEDURE

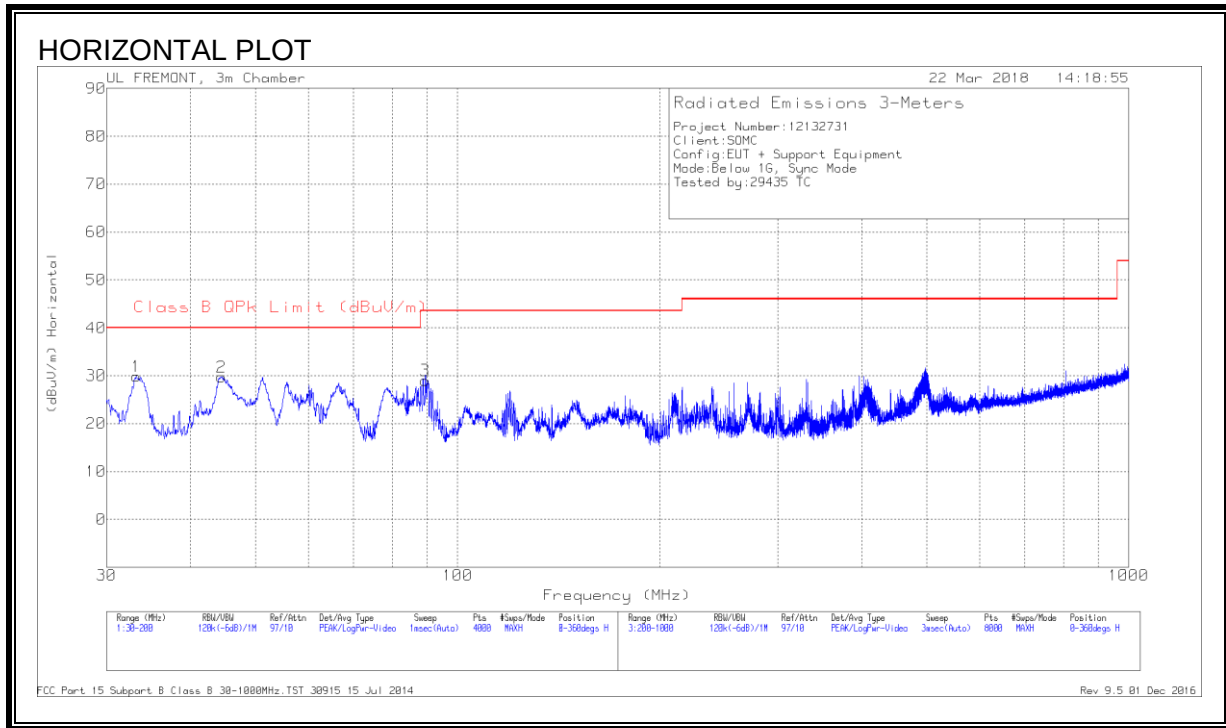
ANSI C63.4: 2014

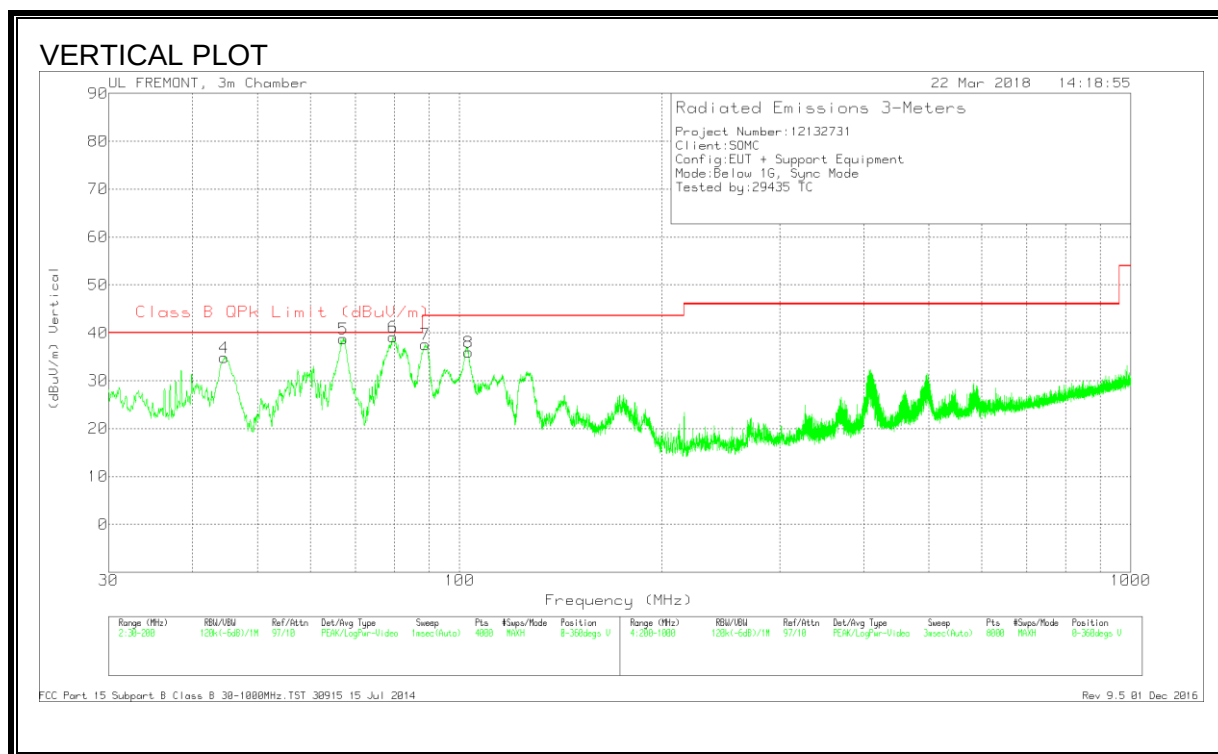
The highest frequency generated or used in the EUT is 5.8 GHz therefore the frequency range was investigated from 30 MHz to 40 GHz.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 108	1000
108-500	2000
500-1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

RESULTS

6.2.1. RADIATED EMISSIONS 30 TO 1000 MHz (SYNC MODE)





HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	33.1883	38.06	Pk	22.9	-31.1	29.86	40	-10.14	0-360	400	H
2	44.4537	45.85	Pk	14.8	-30.9	29.75	40	-10.25	0-360	100	H
4	44.6238	51.05	Pk	14.7	-30.9	34.85	40	-5.15	0-360	100	V
5	67.0696	57.33	Pk	12	-30.6	38.73	40	-1.27	0-360	100	V
6	79.5891	58.04	Pk	11.6	-30.5	39.14	40	-.86	0-360	100	V
7	88.9628	56.45	Pk	11.5	-30.4	37.55	43.52	-5.97	0-360	100	V
3	89.5154	47.84	Pk	11.6	-30.4	29.04	43.52	-14.48	0-360	400	H
8	103.0339	51.07	Pk	15.2	-30.3	35.97	43.52	-7.55	0-360	100	V

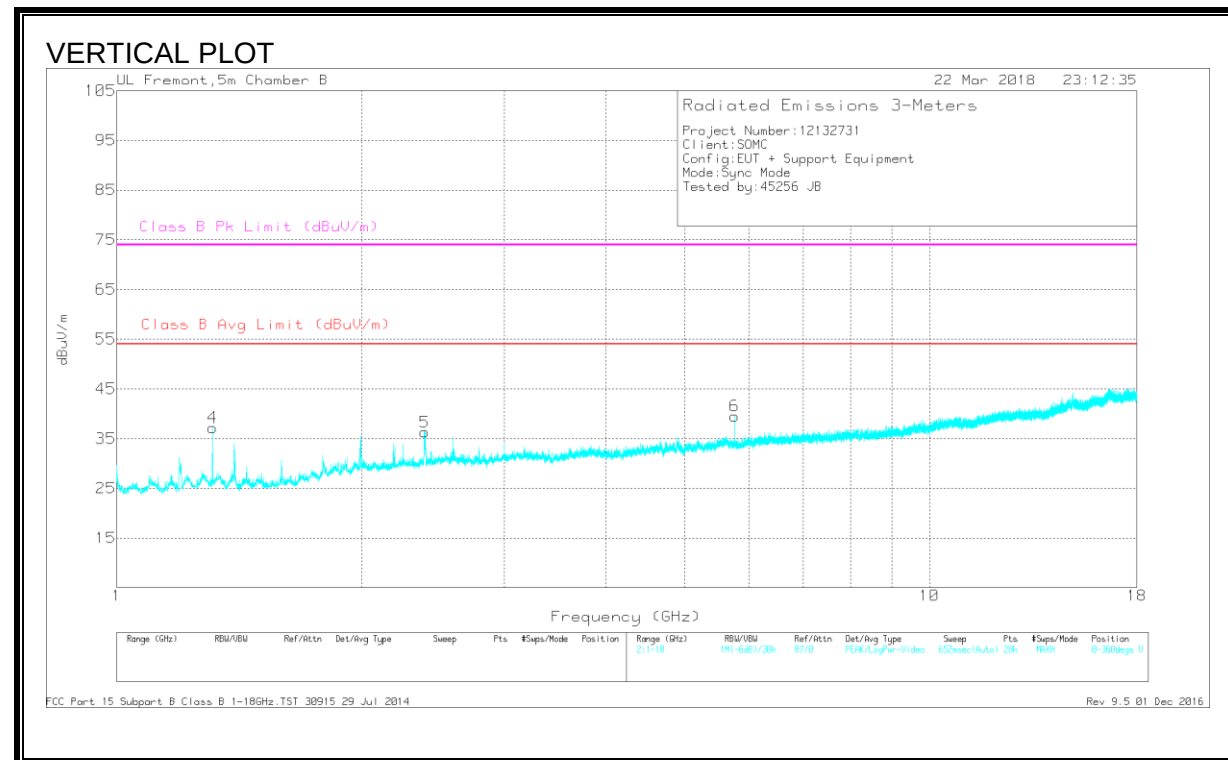
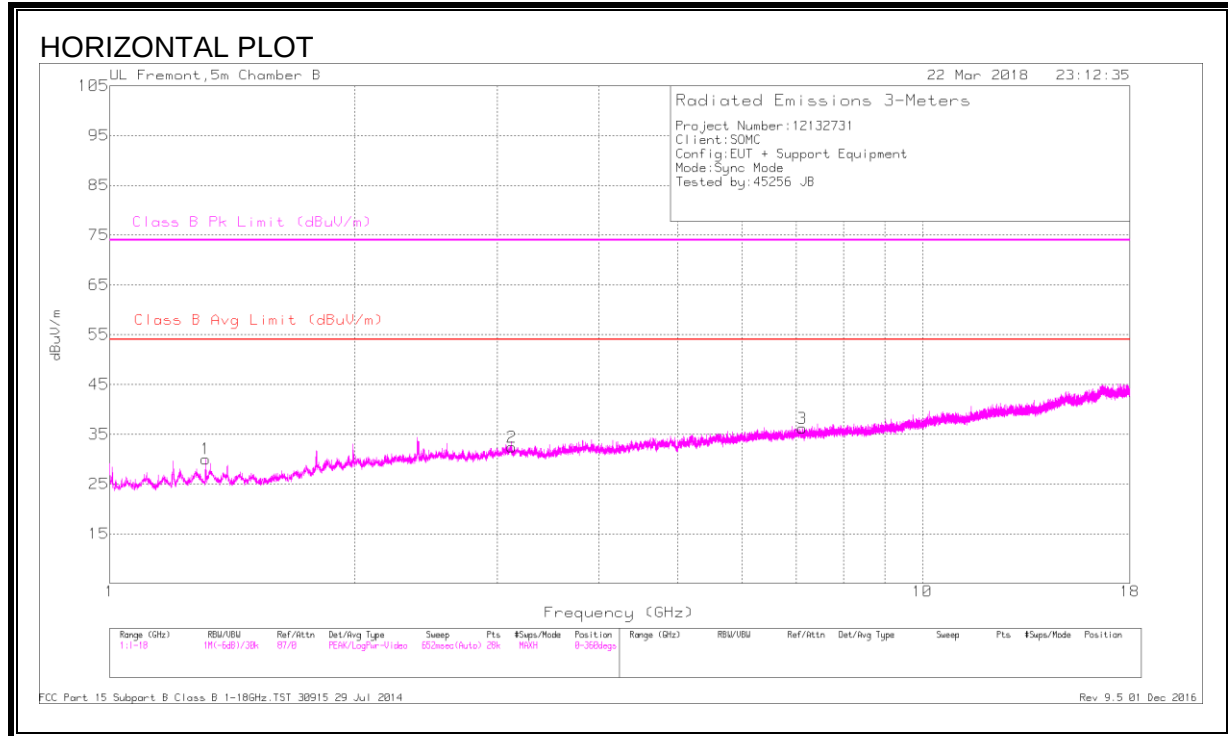
Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB/m)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
44.6075	49.55	Qp	14.7	-30.9	33.35	40	-6.65	274	105	V
66.855	54.19	Qp	12	-30.6	35.59	40	-4.41	210	237	V
79.6889	55.22	Qp	11.6	-30.5	36.32	40	-3.68	168	389	V
88.8058	54.45	Qp	11.5	-30.4	35.55	43.52	-7.97	163	100	V

Qp - Quasi-Peak detector

6.2.2. RADIATED EMISSIONS 1GHz to 18GHz (SYNC MODE)



HORIZONTAL AND VERTICAL DATA

Radiated Emissions

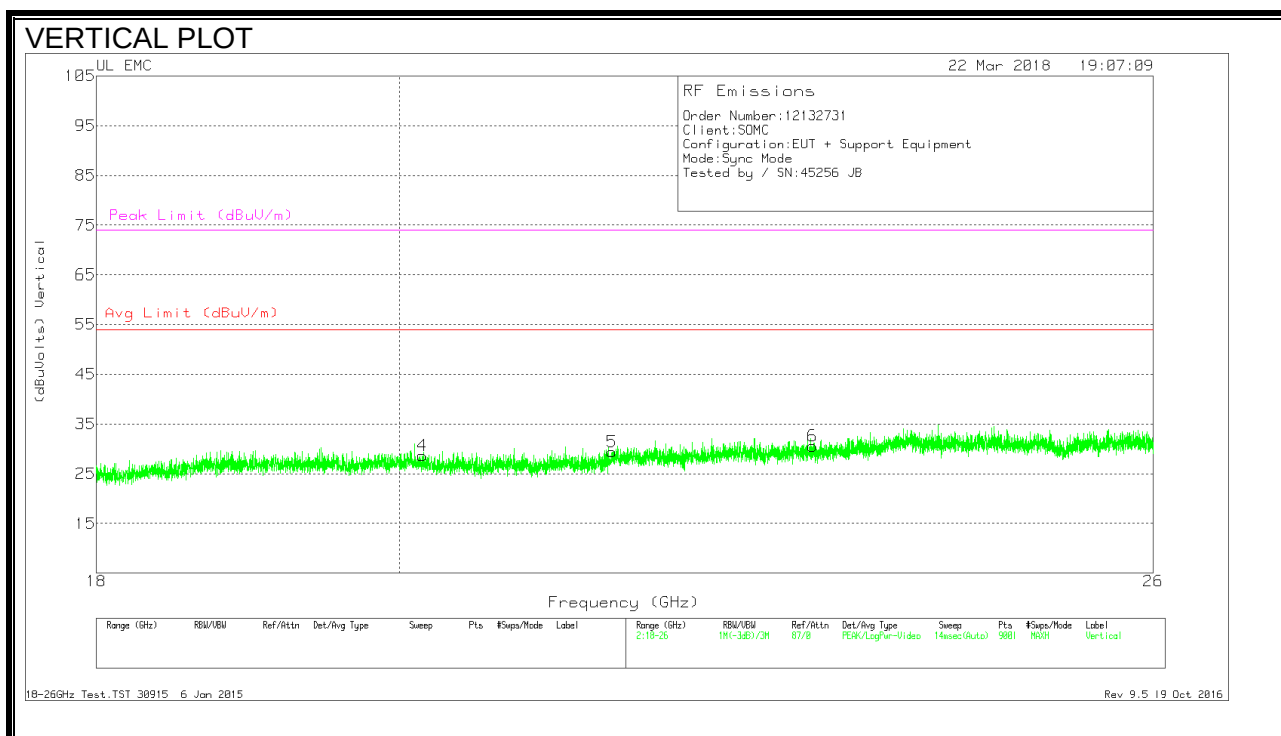
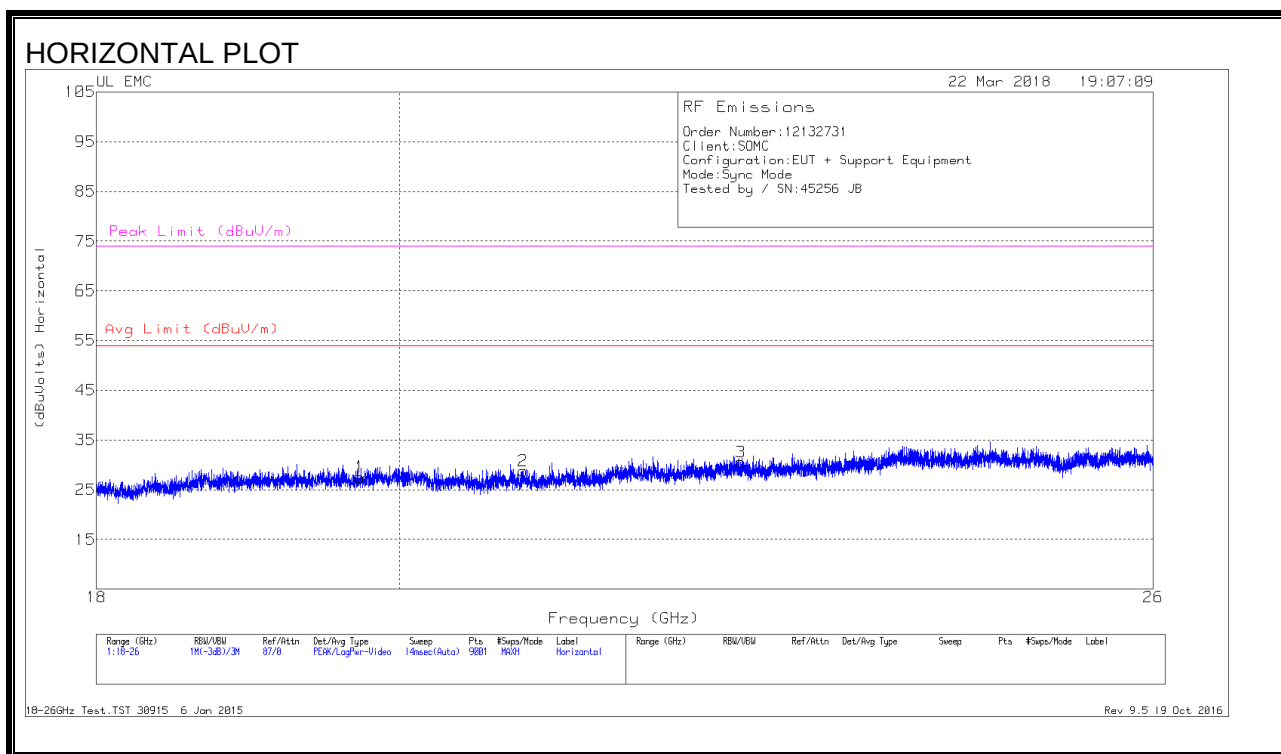
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T863 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.312	40.17	Pk	28.9	-34.4	34.67	-	-	74	-39.33	37	149	H
1.312	27.55	Av	28.9	-34.4	22.05	54	-31.95	-	-	37	149	H
1.313	42.55	Pk	28.9	-34.4	37.05	-	-	74	-36.95	170	369	H
1.313	27.4	Av	28.9	-34.4	21.9	54	-32.1	-	-	170	369	H
2.392	52.82	Pk	32	-32.9	51.92	-	-	74	-22.08	34	261	H
2.392	29.18	Av	32	-32.9	28.28	54	-25.72	-	-	34	261	H
3.124	38.95	Pk	33.1	-31.7	40.35	-	-	74	-33.65	100	359	H
3.124	26.14	Av	33.1	-31.7	27.54	54	-26.46	-	-	100	359	H
5.76	39.35	Pk	35	-30.5	43.85	-	-	74	-30.15	60	202	H
5.76	28.53	Av	35	-30.5	33.03	54	-20.97	-	-	60	202	H
7.115	37.37	Pk	35.9	-29.2	44.07	-	-	74	-29.93	124	264	H
7.116	24.38	Av	35.9	-29.2	31.08	54	-22.92	-	-	124	264	H

Pk - Peak detector

Av - Average detection

6.2.3. RADIATED EMISSIONS 18 to 26 GHz (SYNC MODE)



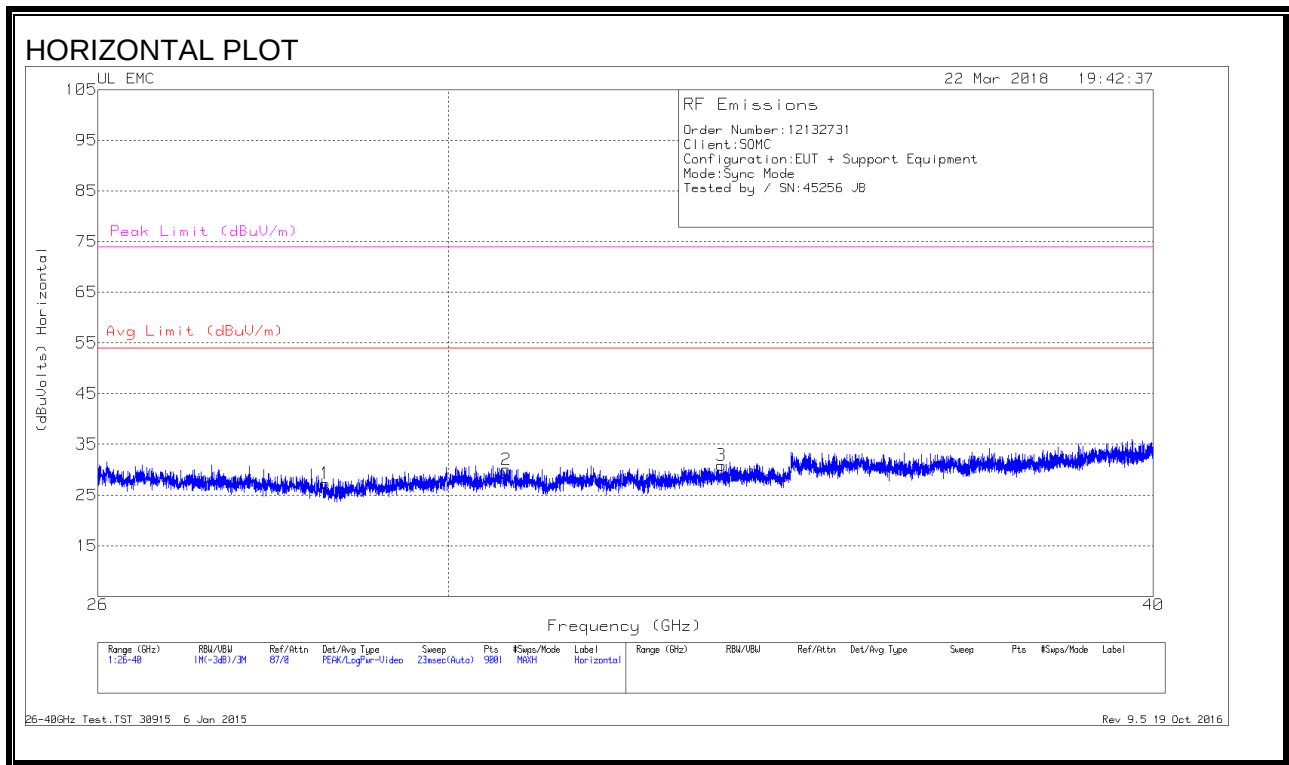
HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.728	29.42	Pk	32.5	-24.9	-9.5	27.52	54	-26.48	74	-46.48
2	20.882	30.99	Pk	32.6	-25.3	-9.5	28.79	54	-25.21	74	-45.21
3	22.523	31.74	Pk	33.4	-25.1	-9.5	30.54	54	-23.46	74	-43.46
4	20.162	30.54	Pk	32.7	-25.1	-9.5	28.64	54	-25.36	74	-45.36
5	21.536	31.1	Pk	33	-25.2	-9.5	29.4	54	-24.6	74	-44.6
6	23.094	31.55	Pk	33.6	-25.1	-9.5	30.55	54	-23.45	74	-43.45

Pk - Peak detector

6.2.4. RADIATED EMISSIONS 26 to 40 GHz (SYNC MODE)



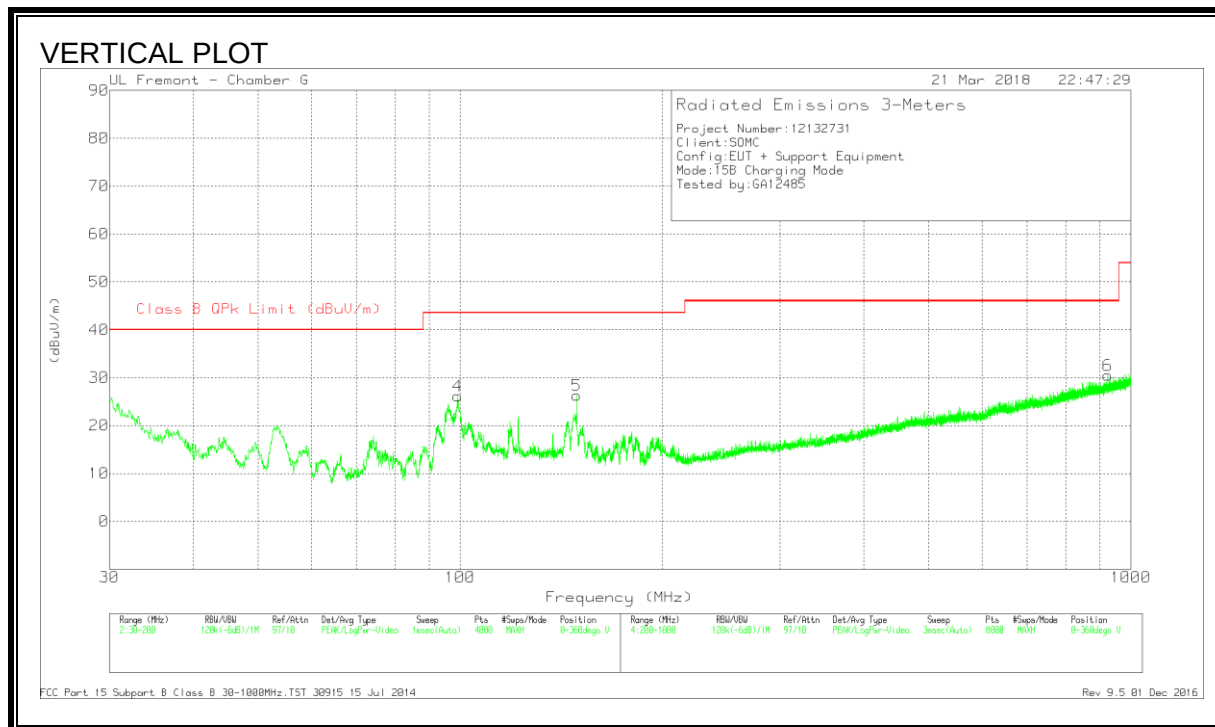
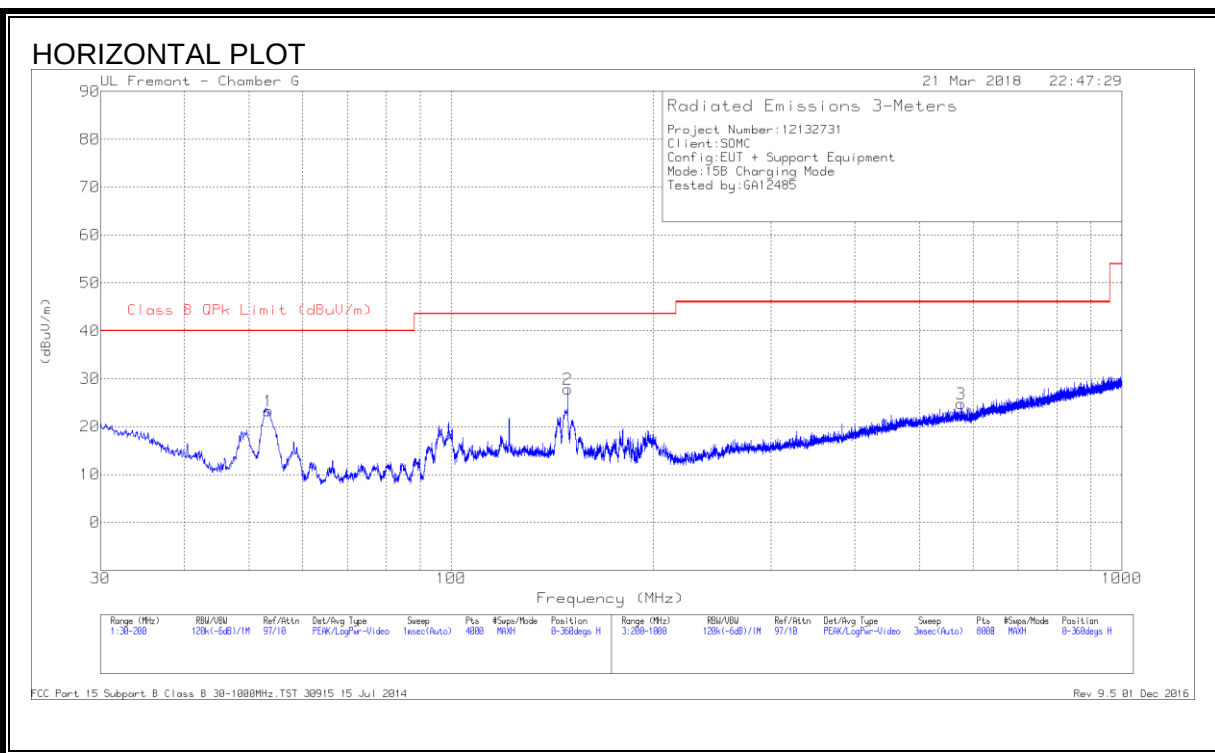
HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	28.529	32.98	Pk	35.7	-31.9	-9.5	27.28	54	-26.72	74	-46.72
2	30.716	36.02	Pk	36.1	-32.6	-9.5	30.02	54	-23.98	74	-43.98
3	33.535	36.05	Pk	37.1	-32.8	-9.5	30.85	54	-23.15	74	-43.15
4	29.575	34.24	Pk	36	-32.3	-9.5	28.44	54	-25.56	74	-45.56
5	31.978	34.72	Pk	36.2	-32.9	-9.5	28.52	54	-25.48	74	-45.48
6	34.128	35.37	Pk	36.9	-33	-9.5	29.77	54	-24.23	74	-44.23

Pk - Peak detector

6.2.5. RADIATED EMISSIONS 30 TO 1000 MHz (CHARGING MODE)



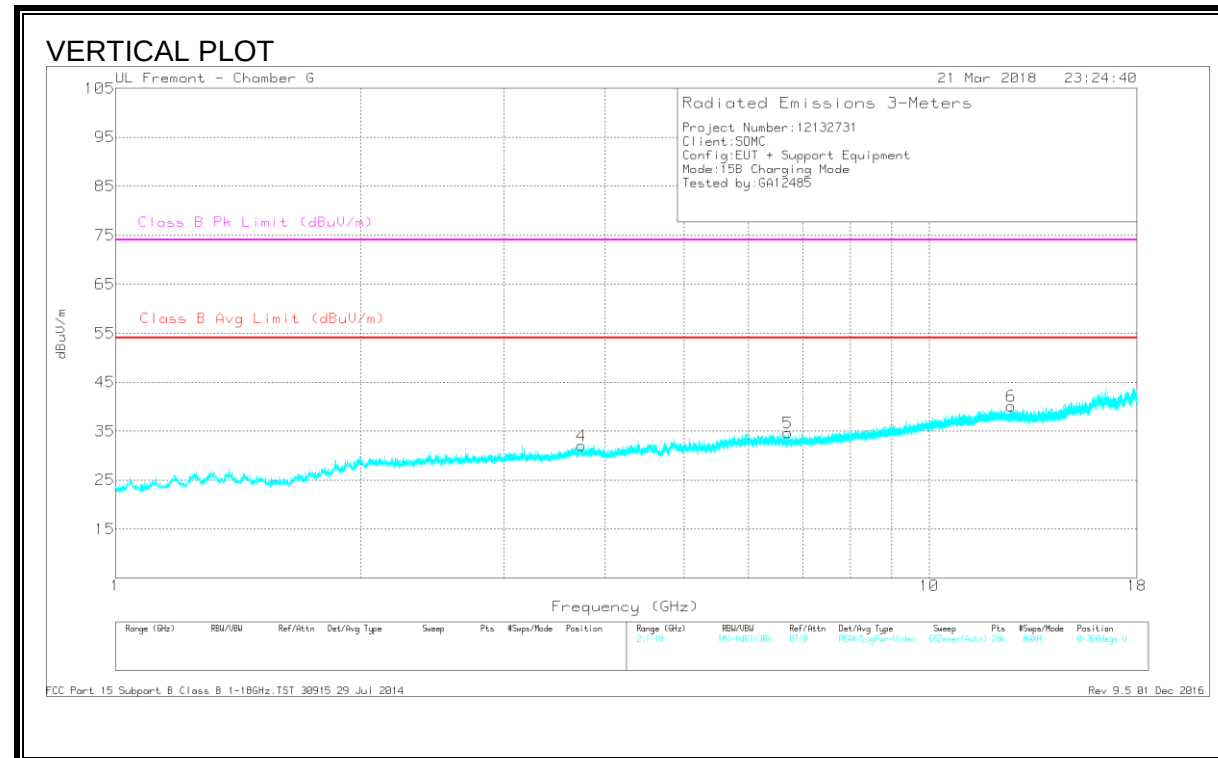
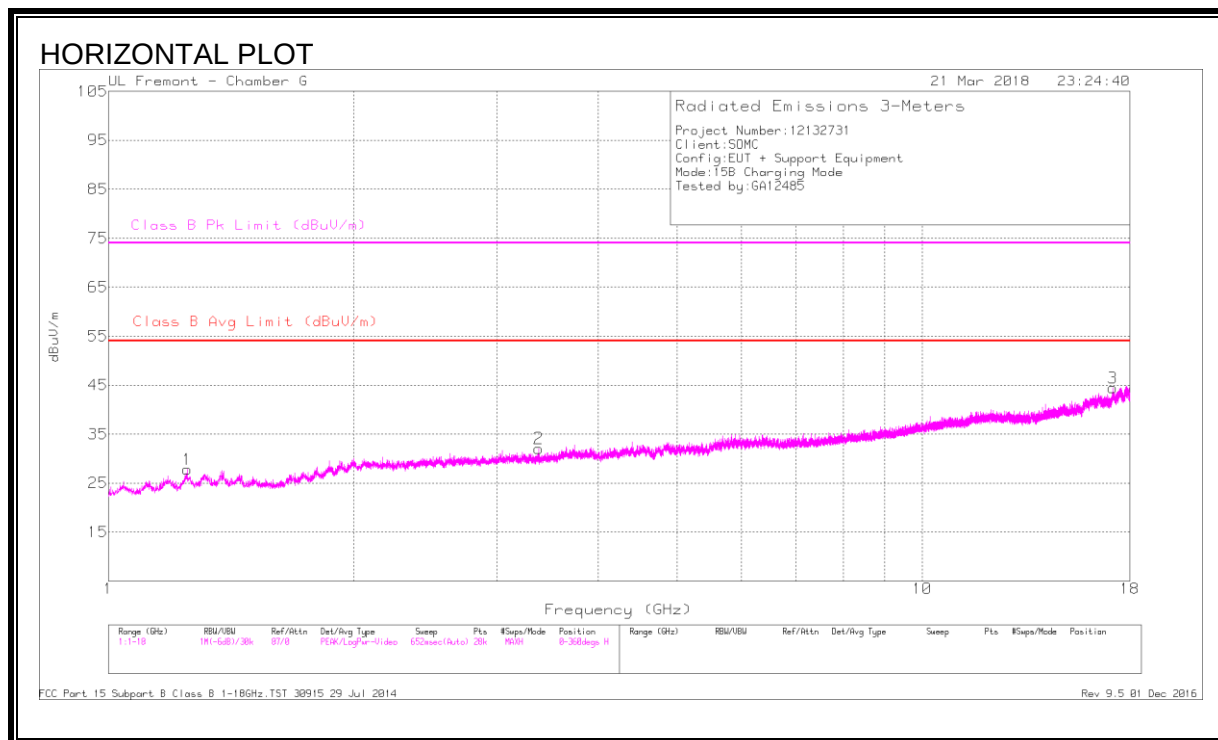
HORIZONTAL AND VERTICAL DATA

Radiated Emissions

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T407 (dB/m)	Amp Cbl (dB)	Corrected Reading (dBuV/m)	Class B QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	53.4661	42.48	Pk	11.7	-30.9	23.28	40	-16.72	0-360	400	H
4	99.1229	42.81	Pk	13.9	-30.5	26.21	43.52	-17.31	0-360	100	V
2	149.1583	41.37	Pk	16.5	-30	27.87	43.52	-15.65	0-360	200	H
5	149.1583	39.81	Pk	16.5	-30	26.31	43.52	-17.21	0-360	100	V
3	575.3488	30.03	Pk	22.4	-27.6	24.83	46.02	-21.19	0-360	399	H
6	924.0941	29.8	Pk	26.3	-25.6	30.5	46.02	-15.52	0-360	100	V

Pk - Peak detector

6.2.6. RADIATED EMISSIONS 1GHz to 18GHz (CHARGING MODE)



HORIZONTAL AND VERTICAL DATA

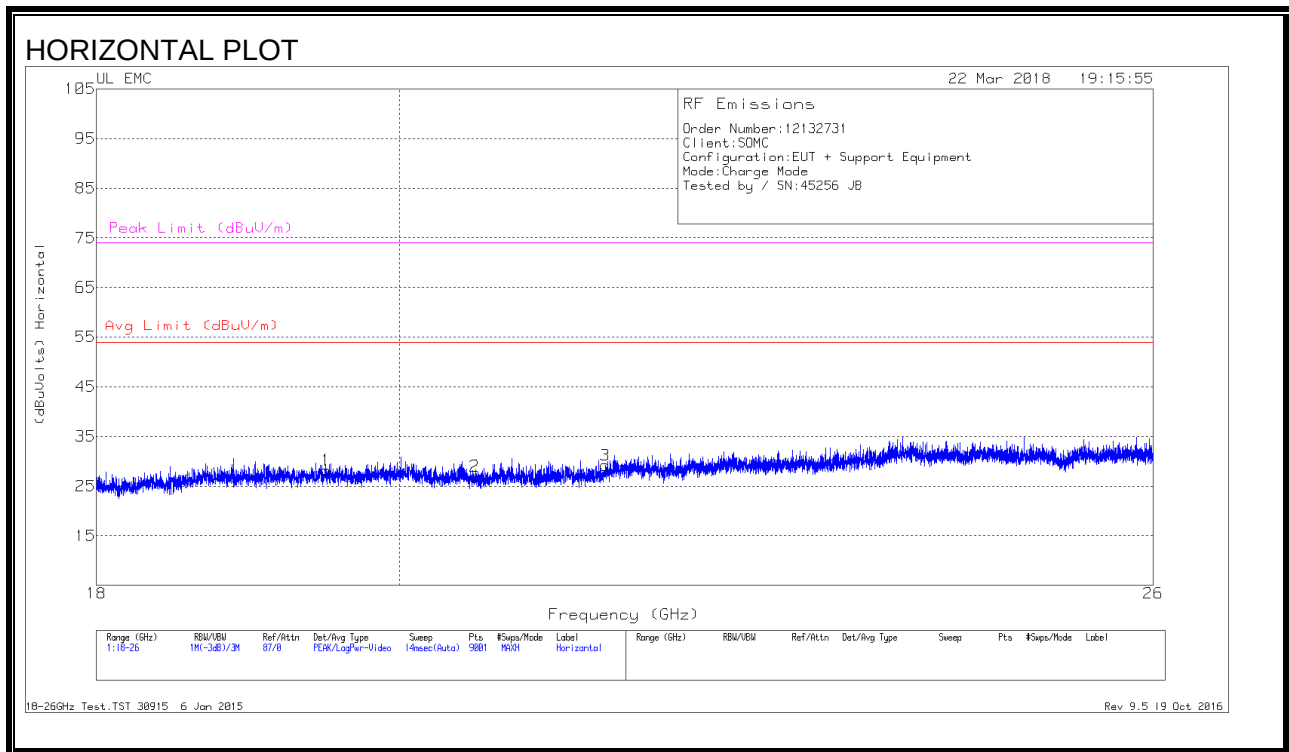
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl (dB)	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Av(CISPR)Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.25	41.86	Pk	28.5	-35.4	34.96	-	-	74	-39.04	303	301	H
1.25	29.06	Av	28.5	-35.4	22.16	54	-31.84	-	-	303	301	H
3.377	30.25	Av	32.8	-33.4	29.65	-	-	-	-	43	148	H
3.377	27	Av	32.8	-33.4	26.4	54	-27.6	-	-	43	148	H
3.743	39.07	Pk	33.3	-33	39.37	-	-	74	-34.63	234	400	V
3.743	26.69	Av	33.3	-33	26.99	54	-27.01	-	-	234	400	V
6.707	38.05	Pk	35.4	-31.9	41.55	-	-	74	-32.45	59	287	V
6.707	25.55	Av	35.4	-31.9	29.05	54	-24.95	-	-	59	287	V
12.624	34.35	Pk	38.8	-26.5	46.65	-	-	74	-27.35	19	298	V
12.624	21.39	Av	38.8	-26.5	33.69	54	-20.31	-	-	19	298	V
17.161	35.5	Pk	42.6	-26	52.1	-	-	74	-21.9	254	102	H
17.161	22.21	Av	42.6	-26	38.81	54	-15.19	-	-	254	102	H

Pk - Peak detector

Av - Average detection

6.2.7. RADIATED EMISSIONS 18 to 26 GHz (CHARGING MODE)



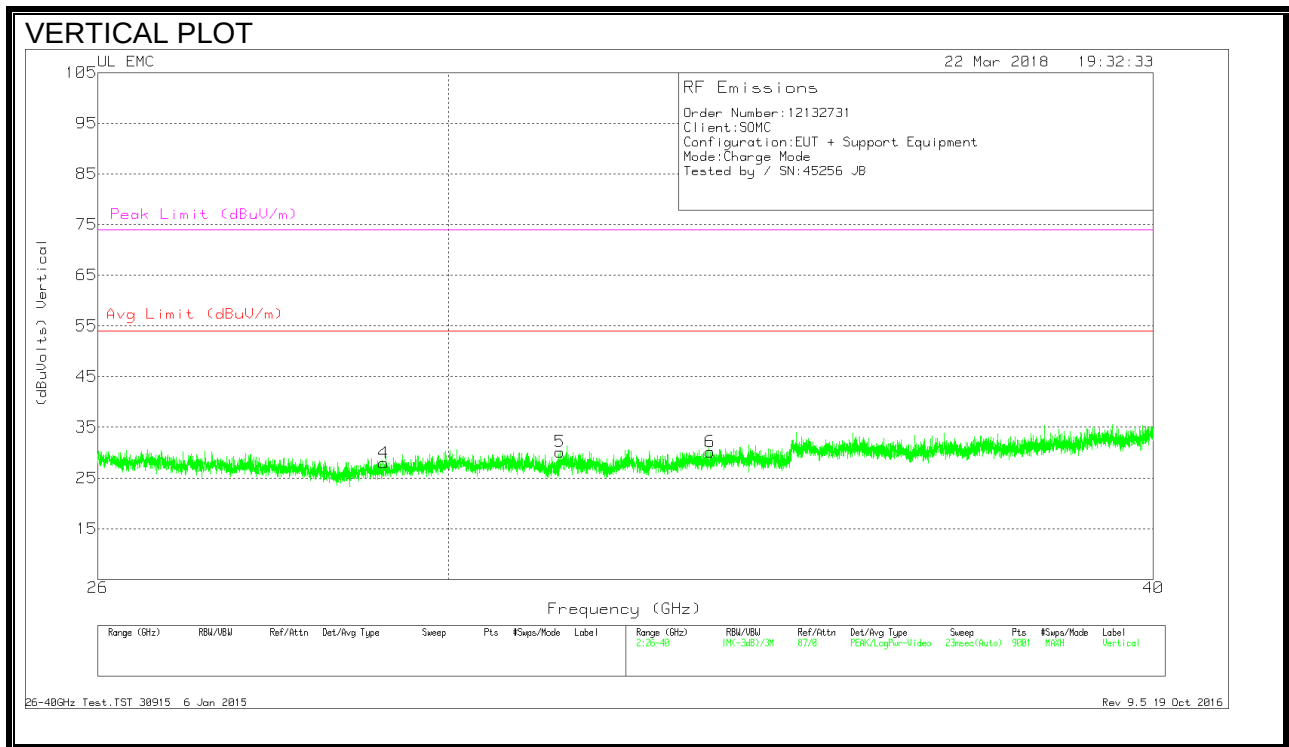
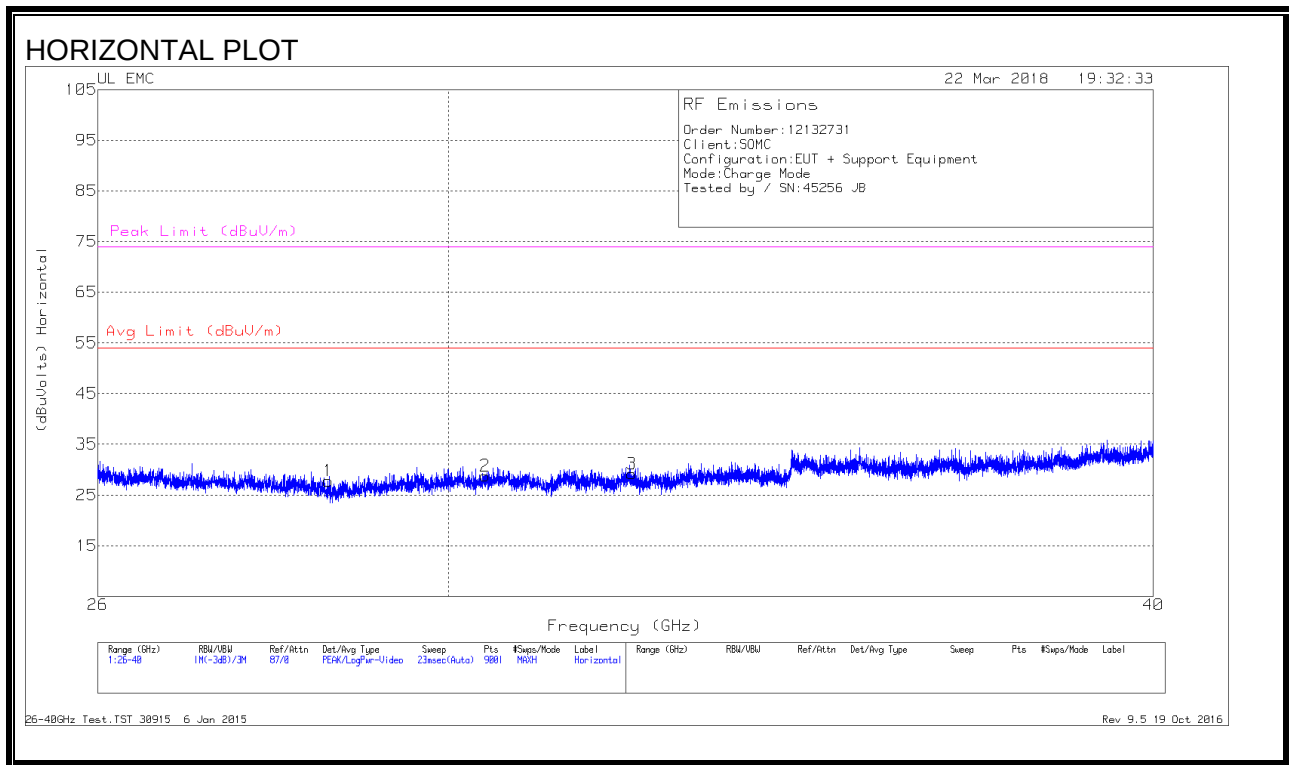
HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T89 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	19.498	30.34	Pk	32.5	-25.1	-9.5	28.24	54	-25.76	74	-45.76
2	20.532	29.24	Pk	32.7	-25.5	-9.5	26.94	54	-27.06	74	-47.06
3	21.484	30.97	Pk	33	-25.3	-9.5	29.17	54	-24.83	74	-44.83
4	19.916	30.45	Pk	32.9	-25.2	-9.5	28.65	54	-25.35	74	-45.35
5	20.748	29.92	Pk	32.8	-25.3	-9.5	27.92	54	-26.08	74	-46.08
6	22.051	31.66	Pk	33.1	-25.3	-9.5	29.96	54	-24.04	74	-44.04

Pk - Peak detector

6.2.8. RADIATED EMISSIONS 26 to 40 GHz (CHARGING MODE)



HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	T90 AF (dB/m)	Amp/Cbl (dB)	Dist Corr (dB)	Corrected Reading (dBuVolts)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)
1	28.562	33.56	Pk	35.7	-32	-9.5	27.76	54	-26.24	74	-46.24
2	30.455	34.96	Pk	36	-32.7	-9.5	28.76	54	-25.24	74	-45.24
3	32.333	34.98	Pk	36.4	-32.7	-9.5	29.18	54	-24.82	74	-44.82
4	29.218	33.76	Pk	35.9	-32.2	-9.5	27.96	54	-26.04	74	-46.04
5	31.399	36.32	Pk	36.1	-32.8	-9.5	30.12	54	-23.88	74	-43.88
6	33.383	35.56	Pk	37	-32.9	-9.5	30.16	54	-23.84	74	-43.84

Pk - Peak detector

6.3. AC MAINS LINE CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.4: 2014

LIMIT

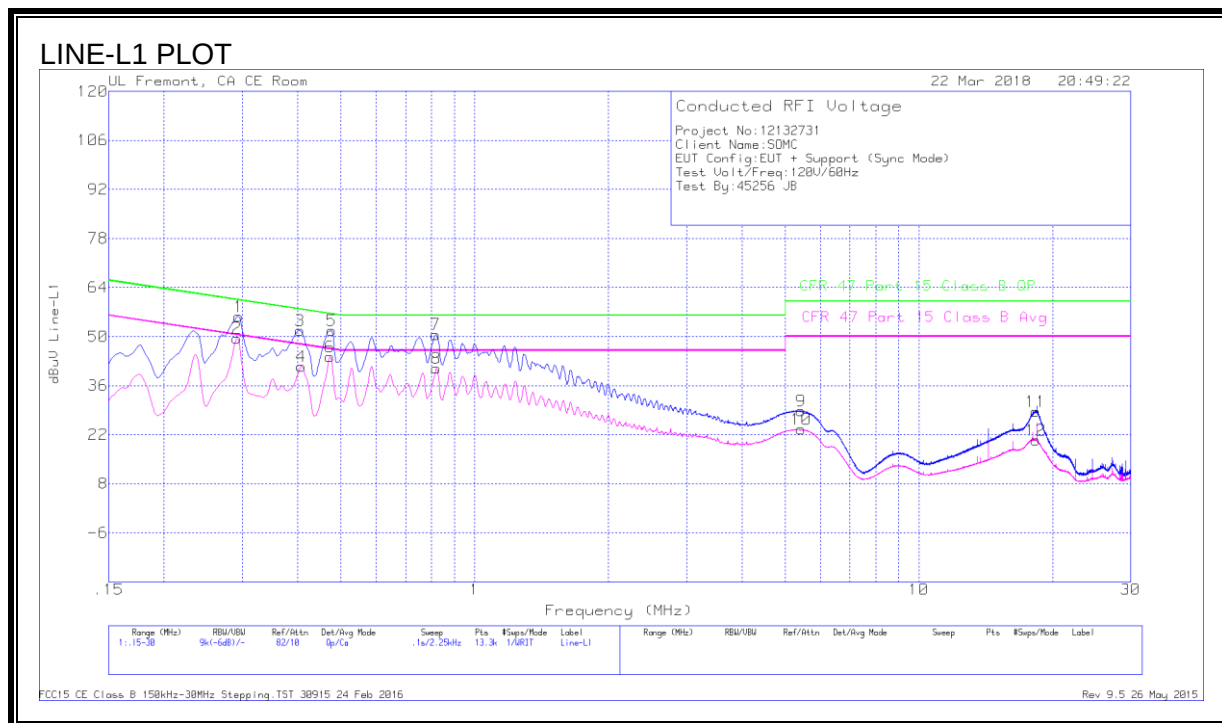
§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz		

6.3.1. RESULTS- SYNC MODE

6 WORST EMISSIONS

Line-L1 .15 - 30MHz



Trace Markers

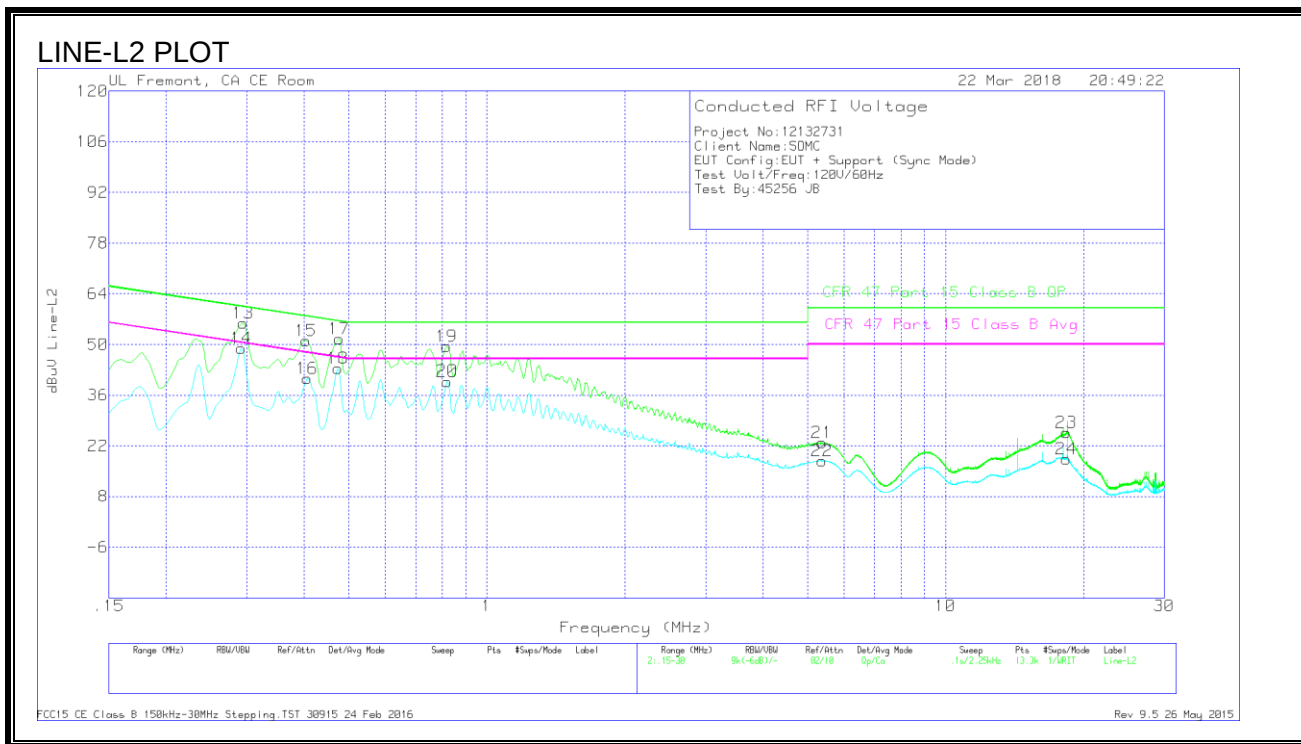
Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.294	45.65	Qp	0	0	10.1	55.75	60.41	-4.66	-	-
2	.29175	39.46	Ca	0	0	10.1	49.56	-	-	50.47	-.91
3	.40425	41.69	Qp	0	0	10.1	51.79	57.77	-5.98	-	-
4	.40762	31.38	Ca	0	0	10.1	41.48	-	-	47.7	-6.22
5	.47625	41.61	Qp	0	0	10.1	51.71	56.4	-4.69	-	-
6	.47175	34.1	Ca	0	0	10.1	44.2	-	-	46.48	-2.28
7	.81825	40.5	Qp	0	0	10.1	50.6	56	-5.4	-	-
8	.8205	30.91	Ca	0	0	10.1	41.01	-	-	46	-4.99
9	5.43525	18.64	Qp	0	.1	10.1	28.84	60	-31.16	-	-
10	5.4375	13.35	Ca	0	.1	10.1	23.55	-	-	50	-26.45
11	18.348	18.09	Qp	0	.3	10.3	28.69	60	-31.31	-	-
12	18.3435	9.87	Ca	0	.3	10.3	20.47	-	-	50	-29.53

Qp - Quasi-Peak detector

Ca - CISPR average detection

Line-L2 .15 - 30MHz



Trace Markers

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.294	45.83	Qp	0	0	10.1	55.93	60.41	-4.48	-	-
14	.29175	38.93	Ca	0	0	10.1	49.03	-	-	50.47	-1.44
15	.40312	41.01	Qp	0	0	10.1	51.11	57.79	-6.68	-	-
16	.4065	30.55	Ca	0	0	10.1	40.65	-	-	47.72	-7.07
17	.47625	41.4	Qp	0	0	10.1	51.5	56.4	-4.9	-	-
18	.474	33.23	Ca	0	0	10.1	43.33	-	-	46.44	-3.11
19	.81825	39.35	Qp	0	0	10.1	49.45	56	-6.55	-	-
20	.8205	29.73	Ca	0	0	10.1	39.83	-	-	46	-6.17
21	5.379	12.64	Qp	0	.1	10.1	22.84	60	-37.16	-	-
22	5.37675	7.7	Ca	0	.1	10.1	17.9	-	-	50	-32.1
23	18.339	15.05	Qp	0	.3	10.3	25.65	60	-34.35	-	-
24	18.35025	7.75	Ca	0	.3	10.3	18.35	-	-	50	-31.65

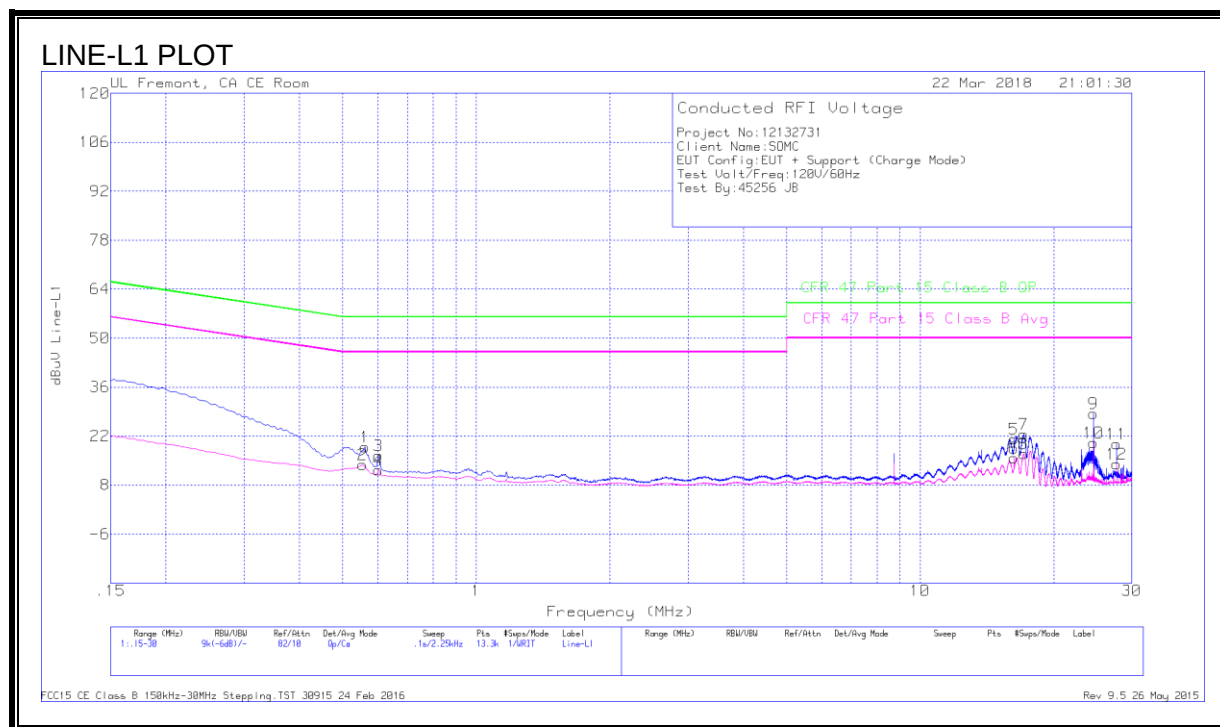
Qp - Quasi-Peak detector

Ca - CISPR average detection

6.3.2. RESULTS- CHARGING MODE

6 WORST EMISSIONS

Line-L1 .15 - 30MHz



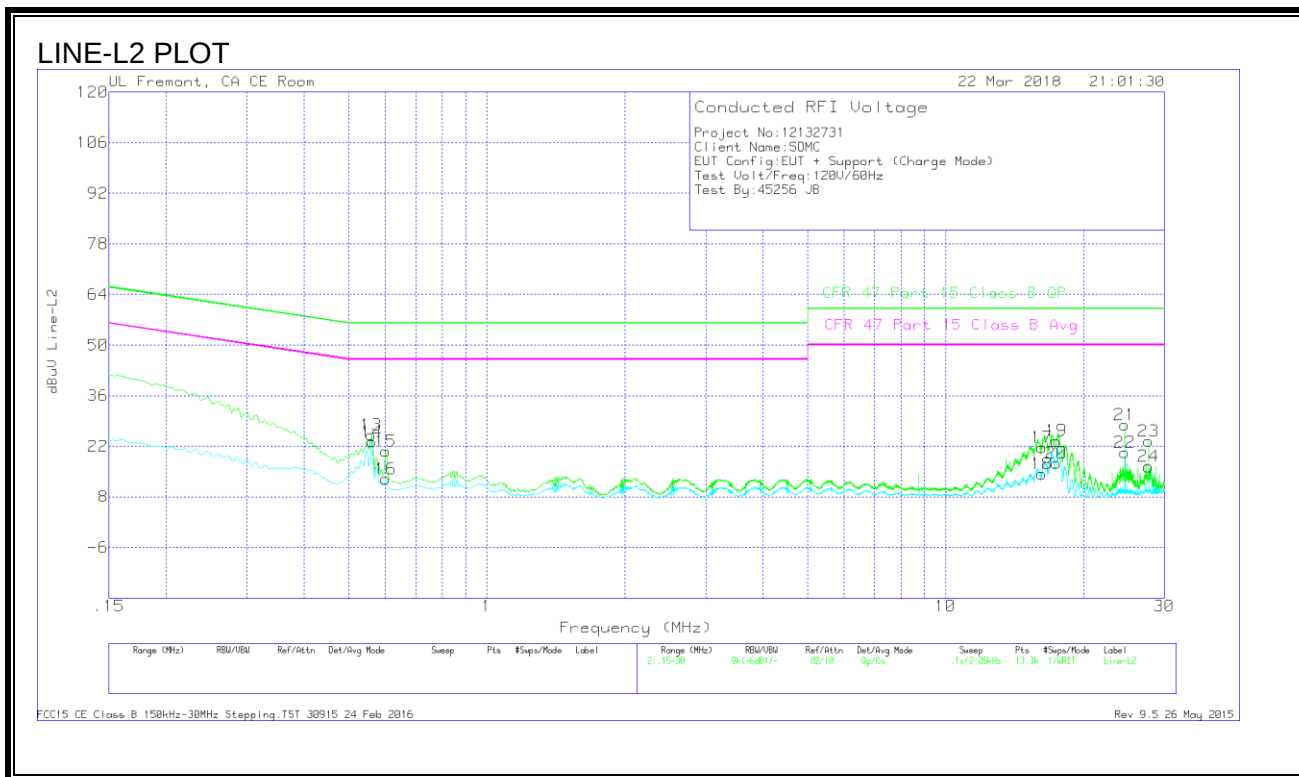
Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
1	.56175	8.76	Qp	0	0	10.1	18.86	56	-37.14	-	-
2	.555	3.68	Ca	0	0	10.1	13.78	-	-	46	-32.22
3	.60225	6.28	Qp	0	0	10.1	16.38	56	-39.62	-	-
4	.60225	2.16	Ca	0	0	10.1	12.26	-	-	46	-33.74
5	16.251	10.57	Qp	0	.3	10.3	21.17	60	-38.83	-	-
6	16.251	5.19	Ca	0	.3	10.3	15.79	-	-	50	-34.21
7	17.11725	11.9	Qp	0	.3	10.3	22.5	60	-37.5	-	-
8	17.115	6.31	Ca	0	.3	10.3	16.91	-	-	50	-33.09
9	24.6165	17.58	Qp	.1	.3	10.5	28.48	60	-31.52	-	-
10	24.6165	9.23	Ca	.1	.3	10.5	20.13	-	-	50	-29.87
11	27.69225	8.82	Qp	.1	.4	10.5	19.82	60	-40.18	-	-
12	27.69225	2.94	Ca	.1	.4	10.5	13.94	-	-	50	-36.06

Qp - Quasi-Peak detector

Ca - CISPR average detection

Line-L2 .15 - 30MHz



Trace Markers

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR) Margin (dB)
13	.5595	15.08	Qp	0	0	10.1	25.18	56	-30.82	-	-
14	.56175	13.08	Ca	0	0	10.1	23.18	-	-	46	-22.82
15	.60225	10.56	Qp	0	0	10.1	20.66	56	-35.34	-	-
16	.60225	2.93	Ca	0	0	10.1	13.03	-	-	46	-32.97
17	16.2195	11.14	Qp	0	.3	10.3	21.74	60	-38.26	-	-
18	16.2285	3.73	Ca	0	.3	10.3	14.33	-	-	50	-35.67
19	17.44125	12.89	Qp	0	.3	10.3	23.49	60	-36.51	-	-
20	17.448	6.72	Ca	0	.3	10.3	17.32	-	-	50	-32.68
21	24.6165	16.97	Qp	.1	.3	10.5	27.87	60	-32.13	-	-
22	24.6165	9.38	Ca	.1	.3	10.5	20.28	-	-	50	-29.72
23	27.69225	12.42	Qp	.1	.4	10.5	23.42	60	-36.58	-	-
24	27.69225	5.37	Ca	.1	.4	10.5	16.37	-	-	50	-33.63

Qp - Quasi-Peak detector

Ca - CISPR average detection